



Process Stream List					
Stream No.	Temperature	Pressure	Flowrate	Energy	Description
[]	[K]	[Bara]	[kg/18months]	[MJ]	[]
A1				1	Cabin Air Feed to Process
A2				1	Compressed Cabin Air
A3				1	Adsorption Bed 2-A-101A Feed
A4				1	Dried Air
A5				1	Adsorption Bed 2-A-102A Feed
A6				1	Adsorption Bed 2-A-102A Air Product (Less CO2)
A7				1	Compressed Air Product (Less CO2)
A8				1	Adsorption Bed 2-A-101B Feed
A9				1	Adsorption Bed 2-A-101B Product
A10				1	Cabin Air Return Stream (Less CO2)
A11				1	Adsorbed CO2 Product from 2-A-102B
A12				1	Hot CO2 Product
A13				1	Cooled CO2 Feed to 2-D-101
A14				1	CO2 Process Feed
A15				1	Expanded CO2 Process Feed
A16				1	Sabatier Reactor Mixed Feed
A17				1	Pre-Heated Sabatier Reactor Mixed Feed
A18				1	2-R-201 Product Stream
A19				1	Two Phase Product from 2-E-202
A20				1	Gaseous Sabatier Reactor Products
A21				1	2-C-201 Stage One Outlet
A22				1	2-C-201 Stage One Outlet (cooled)
A23				1	2-C-201 Stage Two Outlet
A24				1	2-C-201 Stage Two Outlet (cooled)
A25				1	2-C-201 Stage Three Outlet
A26				1	Compressed + Cooled Sabatier Gaseous Products
A27				1	Adsorbed CH4 and CO2 Purge
A28				1	Recovered Hydrogen
A29				1	Expanded Recovered Hydrogen
A30				1	Combined Hydrogen Recycle
A31				2	Hydrogen Process Feed Stream
A32				1	Sabatier Liquid Water Product
A33				1	Compressed Liquid Sabatier Water Product
A34				1	2-TK-201 Liquid Feed
A35				1	2-TK-201 Resupply Feed
A36				1	Electrolysis Reactor Feed Water
A37				1	Compressed Electrolysis Reactor Feed
A38				1	Two Phase Hydrogen Product Stream
A39				1	Electrolyte Recycle Stream (H2 Side)
A40				1	Combined Electorlyte Recycle Stream (H2 Side)
A41				1	Cooled Electorlyte Recycle Stream (H2 Side)
A42				1	Wet Hydrogen Product Stream
A43				1	Recovered Water (H2 Side)
A44				1	Dried Hydrogen Recycle Stream
A45				1	Expanded Hydrogen Electrolysis Recycle Stream
A46				1	Two Phase Oxygen Product Stream
A47				1	Electrolyte Recycle Stream (O2 Side)
A48				1	Combined Electorlyte Recycle Stream (O2 Side)
A49				1	Cooled Electorlyte Recycle Stream (O2 Side)
A50				1	Wet Oxygen Product Stream
A51				1	Recovered Water (O2 Side)
A52				1	Dried Oxygen Product Stream
A53				1	Expanded Oxygen Product Stream
A54				1	Cooled Oxygen Product Stream
A55				1	Cabin Air Oxygen Return Stream
A56				1	Safety Oxygen Resupply Feed
A57				1	2-C-301 Stage One Outlet
A58				1	2-C-301 Stage One Outlet (cooled)
A59				1	2-C-301 Stage Two Outlet
A60				1	Oxygen Safety Resupply Feed
A61				1	Oxygen Safety Supply Process Feed
A62				1	Expanded Safety Oxygen
A63				1	Heated Safety Oxygen
A64				1	Hydrogen Resupply Feed from Shuttle
A65				1	2-C-401 Stage One Outlet
A66				1	2-C-401 Stage One Outlet (cooled)
A67				1	2-C-401 Stage Two Outlet
A68				1	2-C-401 Stage Two Outlet (cooled)
A69				1	2-C-401 Stage Three Outlet
A70				1	2-C-401 Stage Three Outlet (cooled)
A71				1	2-C-401 Stage Four Outlet
A72				1	Cooled Hydrogen Resupply to 2-D-401
A73				1	Process Hydrogen Make-Up Stream
A74				1	Expanded Hydrogen Make-Up Stream

Utility Stream List					
Stream No.	Temperature	Pressure	Flowrate	Energy	Description
[]	[K]	[Bara]	[kg/18months]	[MJ]	[]
U1				1	Iso-Butane Refrigerant Feed to 2-E-101
U2				1	Iso-Butane Refrigerant Return from 2-E-101
U3				1	Compressed Iso-Butane
U4				1	Martian Air Stream
U5				1	Compressed Martian Air Stream
U6				1	Heated Martian Air Stream
U7				1	Cooled Iso-Butane
U8				1	Expanded Iso-Butane
U9				1	
U10				1	
U11	10			1	Cooling Water Feed to 2-E-103
U12	20			1	Cooling Water Return from 2-E-103
U13				1	Radiated Heat to Station Atmosphere from Uninsulated Pipe
U14				1	Electrical Energy Input to 2-E-201
U15	10			1	Cooling Water Input to 2-R-201
U16	20			1	Cooling Water Return from 2-R-201
U17	10			1	Cooling Water Feed to 2-E-202
U18	20			1	Cooling Water Return from 2-E-202
U19	10			1	Cooling water Feed to 2-E-203
U20	20			1	Cooling Water Return from 2-E-203
U21	10			1	Cooling water Feed to 2-E-204
U22	20			1	Cooling Water Return from 2-E-204
U23	10			1	Cooling water Feed to 2-E-205
U24	20			1	Cooling Water Return from 2-E-205
U25	10			1	Cooling water Feed to 2-E-206
U26	20			1	Cooling Water Return from 2-E-206
U27	10			1	Cooling water Feed to 2-E-301
U28	20			1	Cooling Water Return from 2-E-301
U29	10			1	Cooling water Feed to 2-E-302
U30	20			1	Cooling Water Return from 2-E-302
U31	10			1	Cooling water Feed to 2-E-303
U32	20			1	Cooling Water Return from 2-E-303
U33	10			1	Cooling water Feed to 2-E-304
U34	20			1	Cooling Water Return from 2-E-304
U35	238			1	Martian Air to 2-E-305
U36				1	Martian Air Return From 2-E-305
U37				1	Hot Utility Feed to 2-E-306
U38				1	Hot Utility Return from 2-E-306
U39	10			1	Cooling water Feed to 2-E-401
U40	20			1	Cooling Water Return from 2-E-401
U41	10			1	Cooling water Feed to 2-E-402
U42	20			1	Cooling Water Return from 2-E-402
U43	10			1	Cooling water Feed to 2-E-403
U44	20			1	Cooling Water Return from 2-E-403
U45	238			1	Martian Air Feed to 2-E-404
U46	240			1	Martian Air Return From 2-E-404

